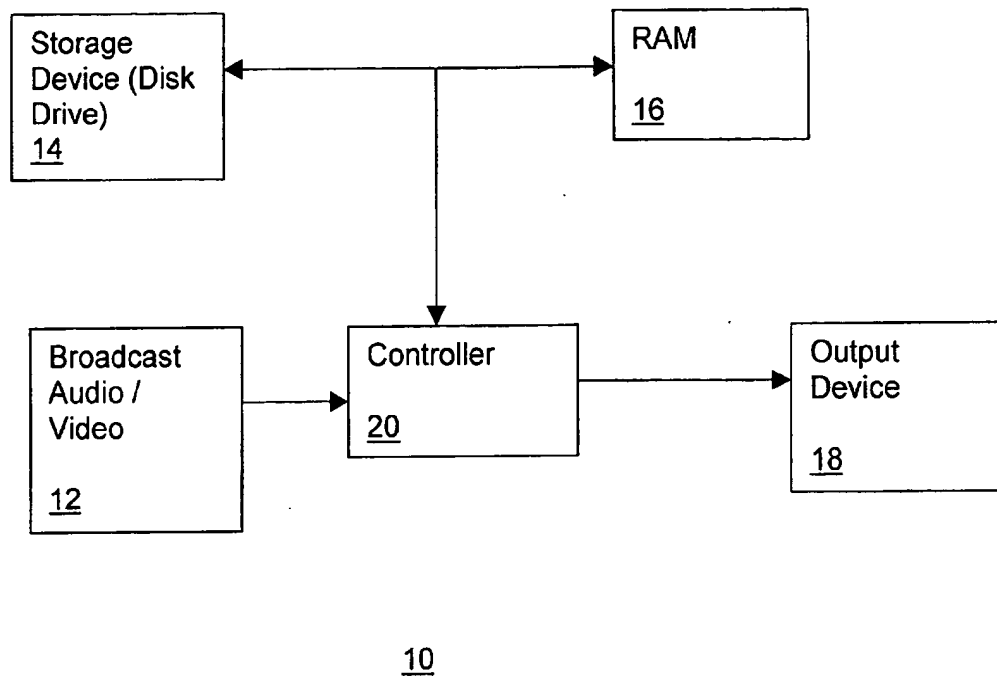


[illegible]

**FIG. 1**

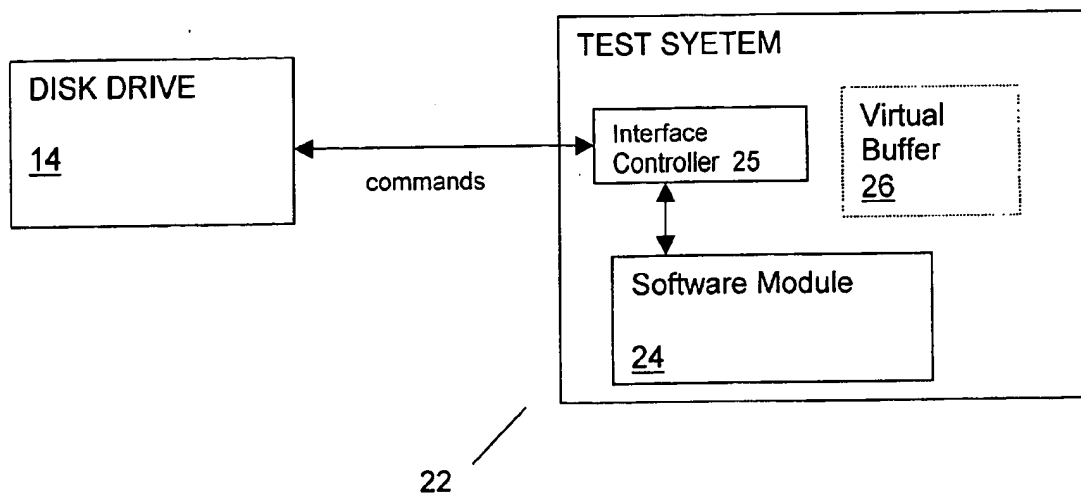


FIG. 2

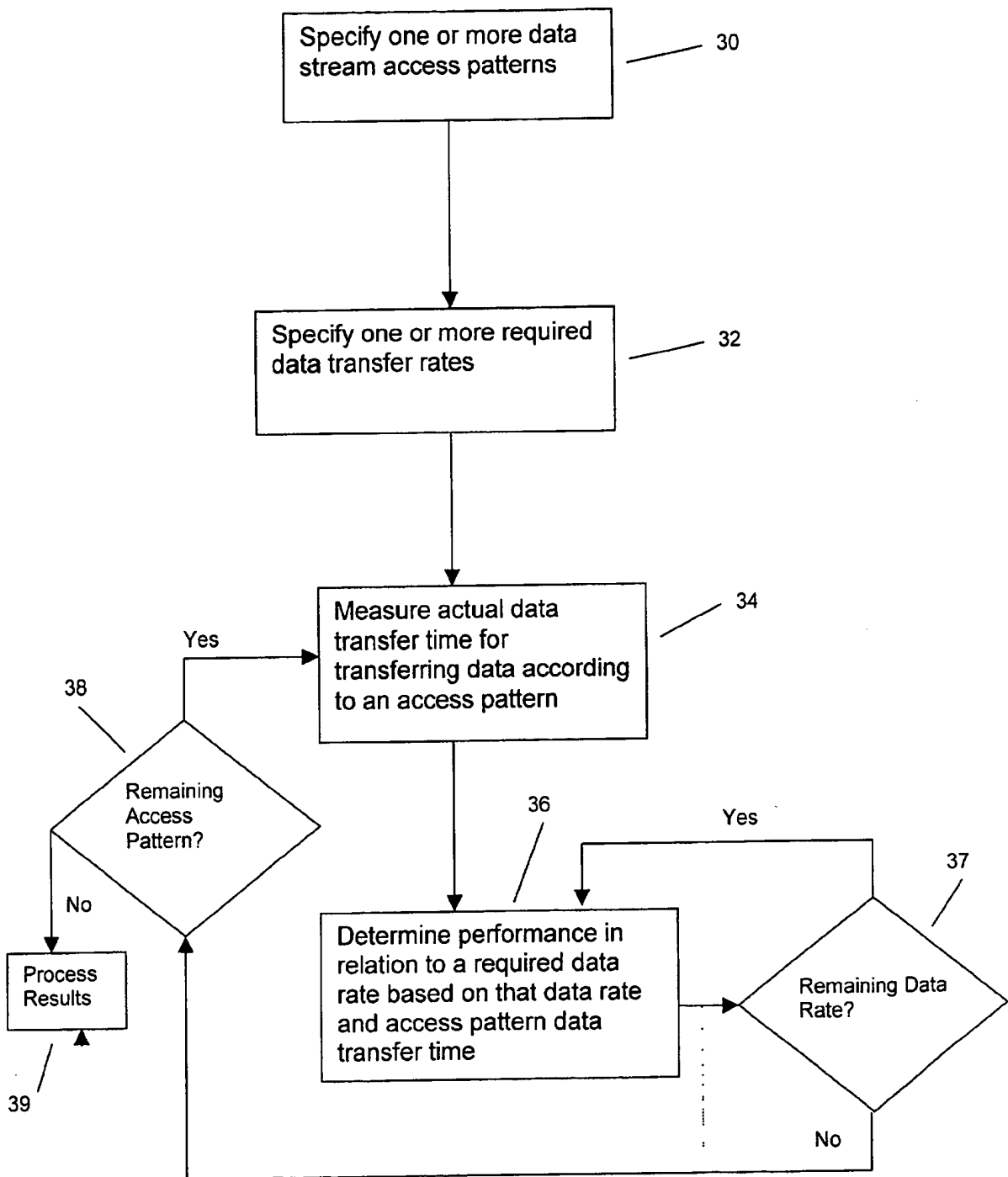
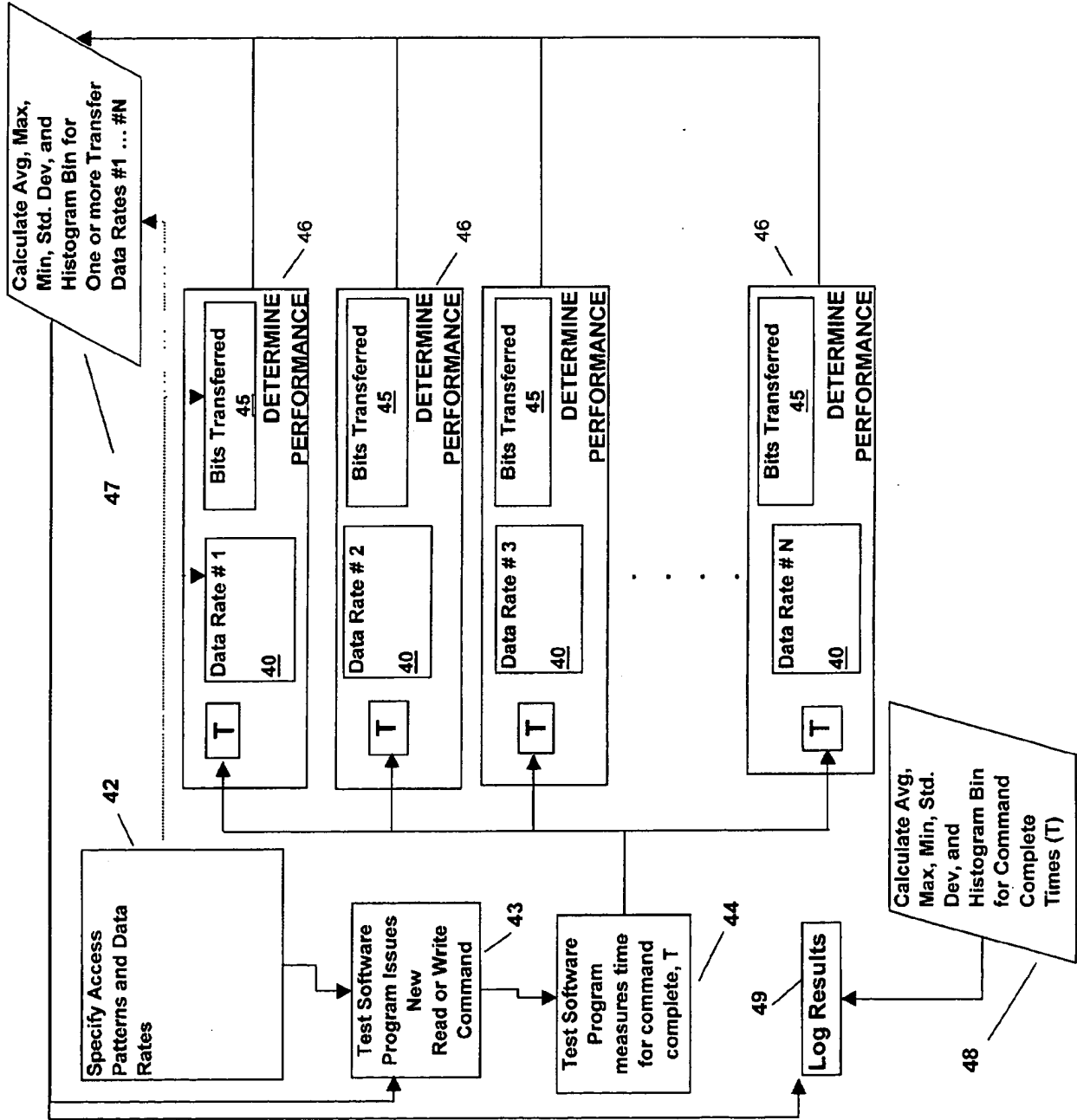
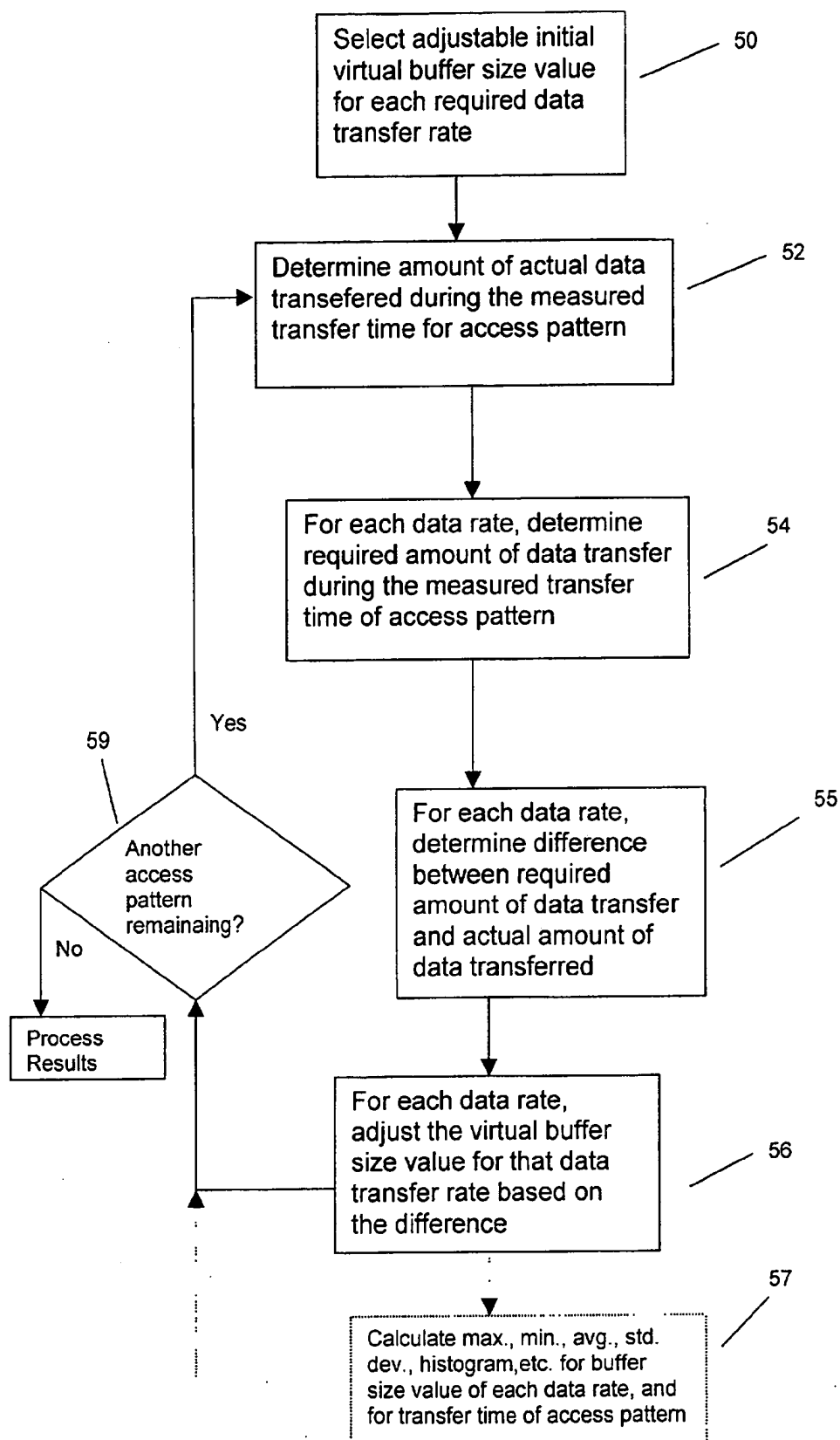


FIG. 3

FIG. 4 - THROUGHPUT TESTING



• • •



**FIG. 5A**

FIG. 5B

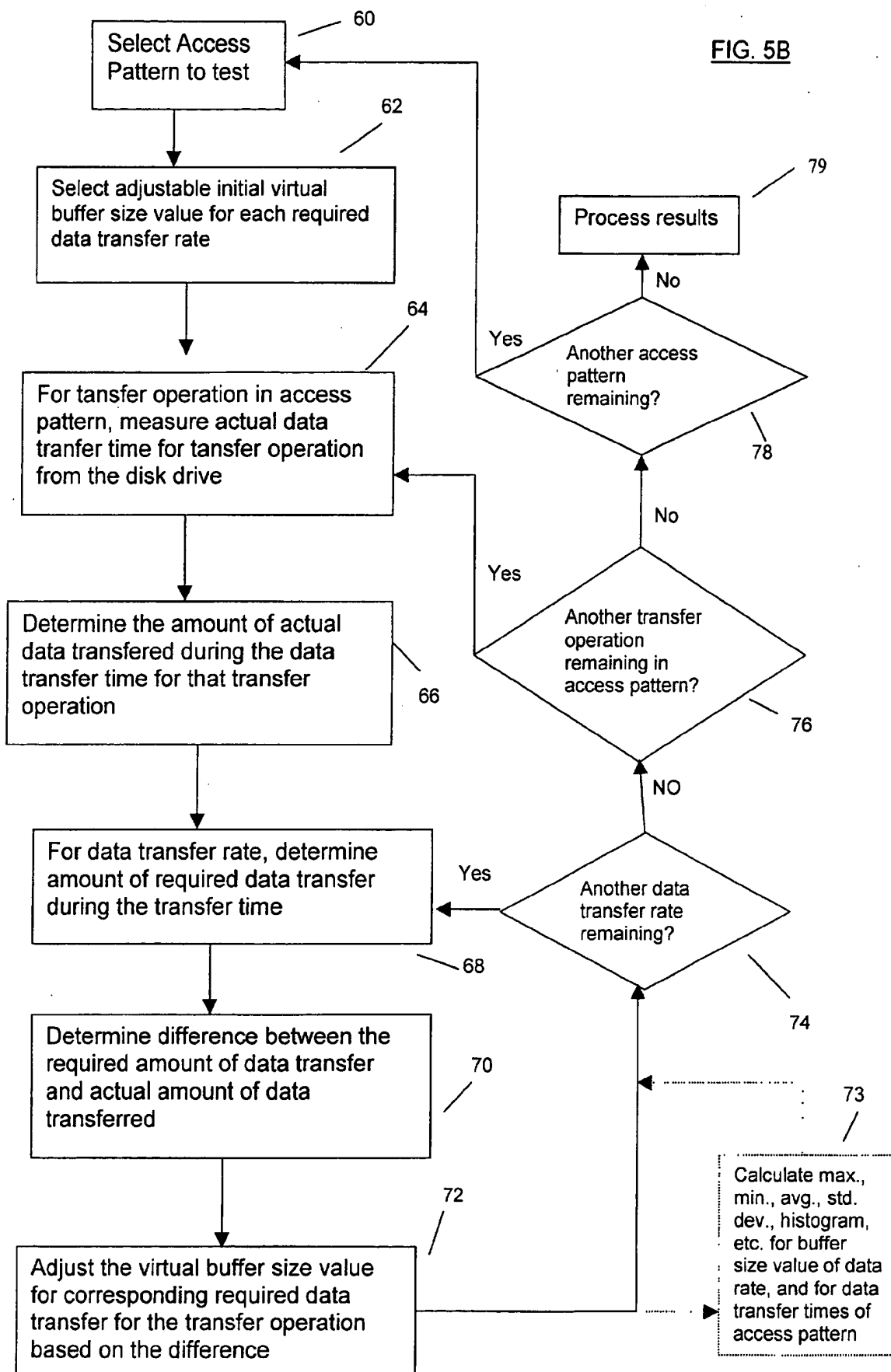
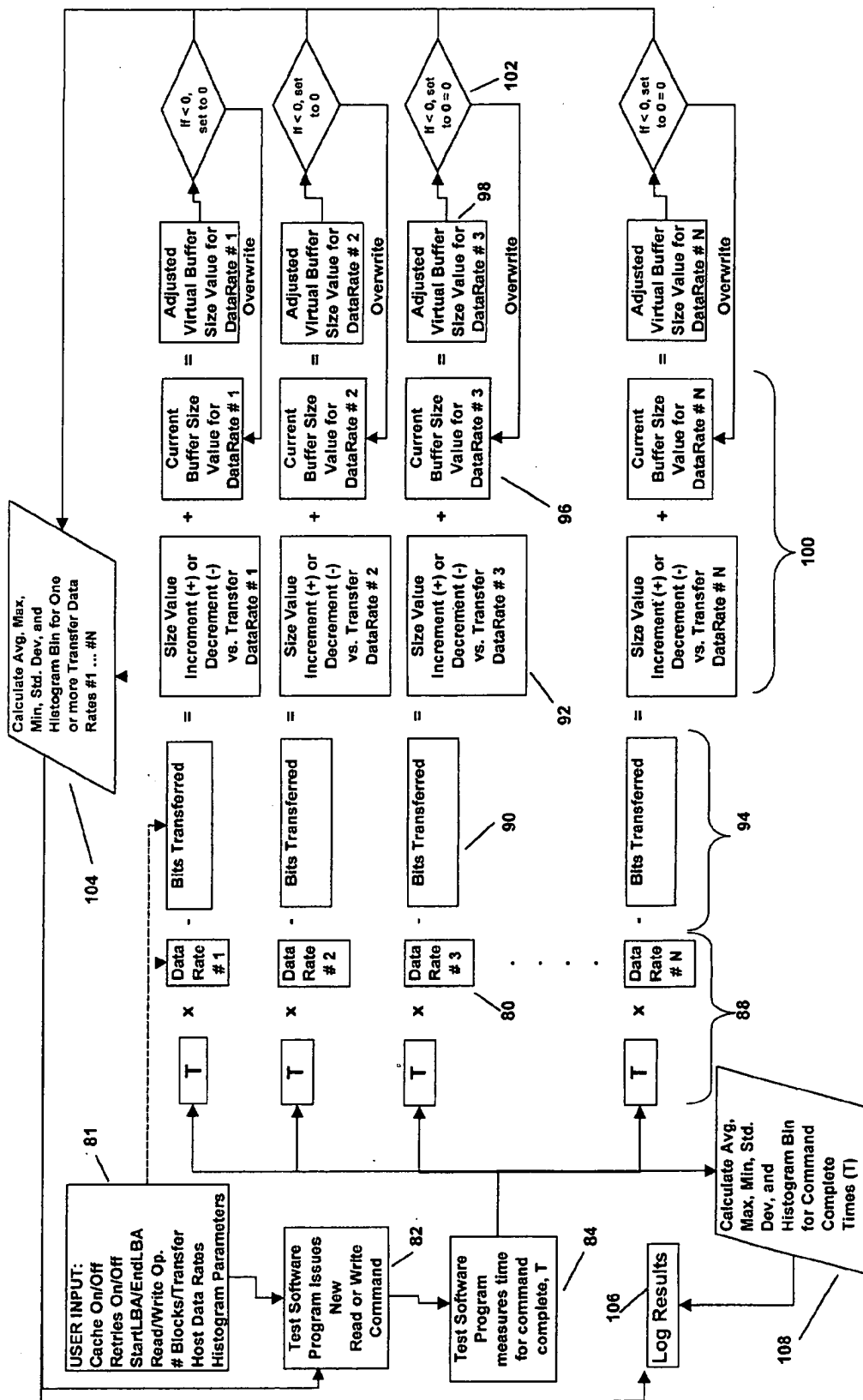
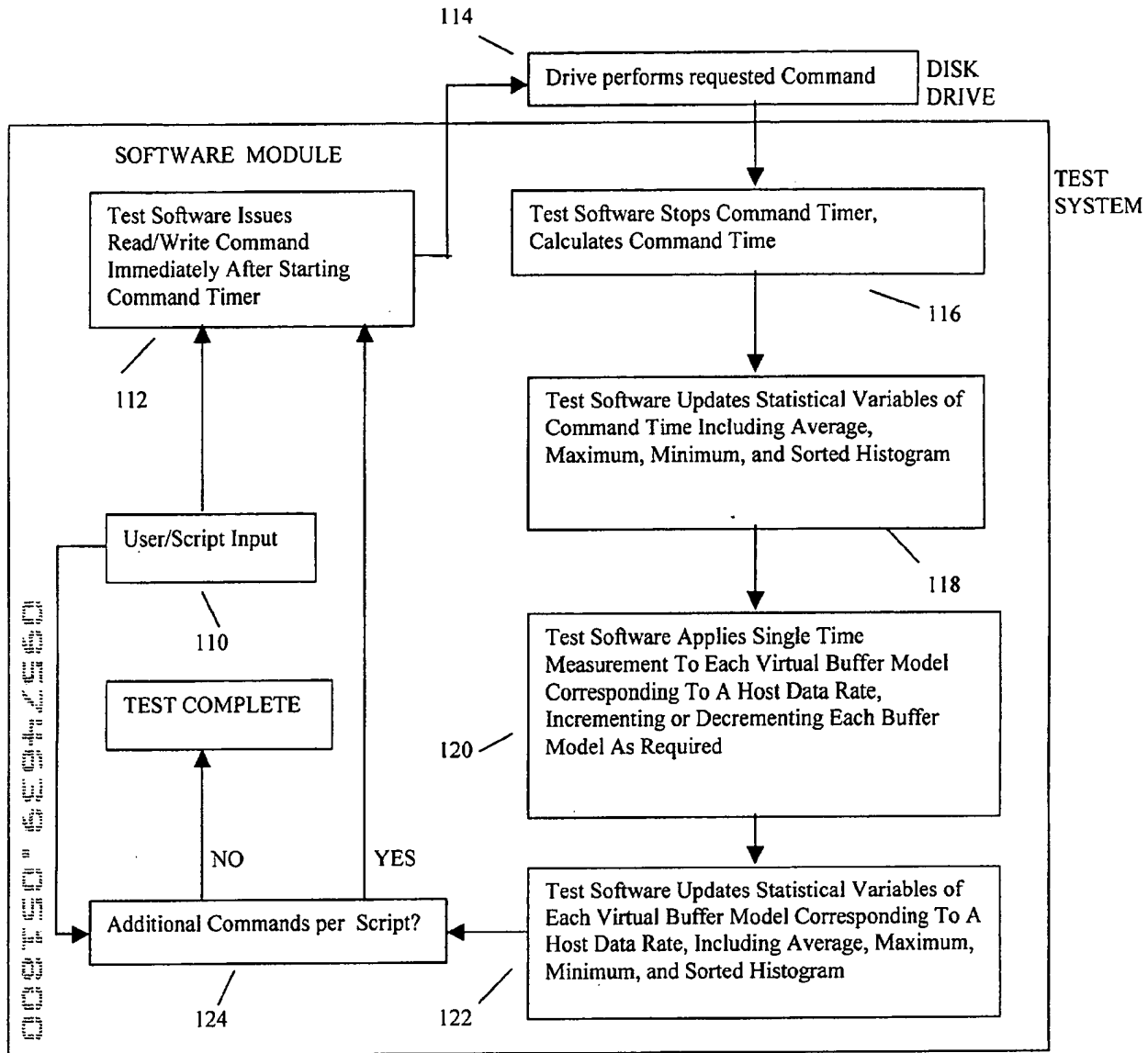


FIG. 6 - THROUGHPUT TESTING USING VIRTUAL BUFFER MODELS





**FIG. 7 - TEST SOFTWARE FUNCTION FLOWCHART FOR VIRTUAL BUFFER MODEL**



Access Pattern	Test time (Minutes)	Rd. or Wrt.	Sil-ent sek	Ca- che R&W	nb	total	Stream1	Stream2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
						xfer's	start	start																		
OD Sequential	0.7	Wrt.	On	On	256	983040	0	n/a								102	100	98	96	94	80	70	60	50	40	30
ID Sequential	0.6	Rd.	On	On	256	983040	maxlba - 1500001	n/a											135	130	125	120	100	80	60	40
ID Sequential	0.7	Wrt.	On	On	256	983040	maxlba - 1500001	n/a								102	100	98	96	94	80	70	60	50	40	30
Dual stream FS	22.2	Wrt./ Wrt.	Off	On	4096	1572864	0	maxlba - 1500001					100	98	96	94	92	90	88	86	70	60	50	40	30	20
Dual Stream O.D. 1/3	20.2	Wrt./ Rd.	Off	On	4096	1572864	0	maxlba/ 3	110	108	106	104	102	100	98	96	94	92	90	80	70	60	50	40	30	20
Dual stream I.D. 1/3	21.2	Wrt./ Rd.	Off	On	4096	1572864	2/3 x maxlba	maxlba - 1500001					100	98	96	94	92	90	88	86	70	60	50	40	30	20
Random FS	1.7	Rd.	Off	Off	256	983040	0	maxlba												44	42	40	30	25	20	10
Random FS	1.7	Wrt.	Off	Off	256	983040	0	maxlba												44	42	40	30	25	20	10
Random FS	3.2	Rd.	Off	On	1024	3932160	0	maxlba						92	90	88	86	84	82	80	70	60	50	40	30	20

Table 1

FIG. 8

THROUGHPUT SUMMARY - TABLE 2

Sectors per Transfer (Access Unit)	Streaming Operation	Data Throughput per Stream (Megabits per Second)
256	Sequential	90 Mbps/50 Mbps *
	Dual Stream	15 Mbps
	Random	20 Mbps
2048	Sequential	NA
	Dual Stream	15 Mbps
	Random	50 Mbps
4096	Sequential	NA
	Dual Stream	Not Tested
	Random	60 Mbps

\* Results indicate data caching enabled / disabled

THROUGHPUT CRITERIA

- > Sequential Test, virtual buffer < 1MB
- > Dual Stream Tests, virtual buffer < 2MB (1MB per Stream)
- > Random Tests, virtual buffer < 2 Mb

FIG. 9

FIG. 10

